



Generell informasjon

Brønnbane navn	6406/2-6 A
Type	EXPLORATION
Formål	APPRAISAL
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORWEGIAN SEA
Funn	6406/2-6 Ragnfrid
Brønn navn	6406/2-6
Seismisk lokalisering	Crossline line 862 - line 1578. HWM94
Utvinningstillatelse	199
Boreoperatør	Den norske stats oljeselskap a.s
Boretillatelse	975-L
Boreinnretning	TRANSOCEAN ARCTIC
Boredager	44
Borestart	24.05.2000
Boreslutt	06.07.2000
Plugget og forlatt dato	06.07.2000
Frigitt dato	06.07.2002
Publiseringsdato	18.12.2002
Opprinnelig formål	APPRAISAL
Gjenåpnet	NO
Innhold	GAS/CONDENSATE
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	EARLY JURASSIC
1. nivå med hydrokarboner, formasjon.	TOFTE FM
Avstand, boredekk - midlere havflate [m]	24.0
Vanndybde ved midlere havflate [m]	302.0
Totalt målt dybde (MD) [m RKB]	5251.0
Totalt vertikalt dybde (TVD) [m RKB]	4842.2
Maks inklinasjon [°]	42.6
Temperatur ved bunn av brønnbanen [°C]	175
Eldste penetrerte alder	EARLY JURASSIC
Eldste penetrerte formasjon	TOFTE FM
Geodetisk datum	ED50
NS grader	64° 45' 31.34" N



ØV grader	6° 22' 54.69" E
NS UTM [m]	7184316.92
ØV UTM [m]	375445.84
UTM sone	32
NPDID for brønnbanen	4094

Brønnhistorie

General

The sidetrack well 6406/2-6 A was drilled in a presumed up-dip position of well 6406/2-6. The primary objective was to appraise the discovery in the Tofte Formation on the Ragnfrid structure. A secondary objective was to test the hydrocarbon potential in the Garn and the Ile Formations.

Operations and results

Appraisal well 6406/2-6 A was side-tracked from re-opened primary well 6406/2-6 on 24 May 2000 from just below the 13 3/8" casing shoe at 2715 m and drilled to a total depth of 5251 m/4842 m TVD, approximately 150 m into the Tofte Formation. Well 6406/2-6 A was drilled without major problems. It was drilled with oil-based mud ("VersaPro") from kick-off point to TD.

In contrast to the expected up-dip position of the side-track, the well proved a down faulted segment and penetrated a significantly thicker Melke Formation and a complete package of Garn Formation, instead of a strongly eroded package according to the prognosis. The proven segment is expected to cover a relatively small area in the central parts of the Ragnfrid structure. The reservoir units proved to be down faulted and a 64 m TVD thick Viking Group was present. The Garn and the Ile Formations proved water bearing except for a possible condensate bearing thin sand in the Ile Formation. The Tofte Formation proved an approximately 4 m condensate in the top of the formation. This was confirmed by an MDT sample taken at 5105. A core was cut in the interval 5123 m to 5151 m in the Tofte Formation. The well was permanently abandoned as a condensate appraisal well on 6 July 2000.

Testing

No drill stem test was performed.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
2800.00	5253.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet



Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	5129.0	5150.3	[m]

Total kjerneprøve lengde [m]	21.3
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder



5123-5128m



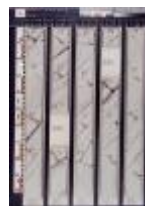
5128-5133m



5133-5138m



5138-5143m



5143-5148m



5148-5151m

Palynologiske preparater i Søkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
2800.0	[m]	DC	STATOI
2820.0	[m]	DC	STATOI
2840.0	[m]	DC	STATOI
2860.0	[m]	DC	STATOI
2880.0	[m]	DC	STATOI
2900.0	[m]	DC	STATOI
2920.0	[m]	DC	STATOI
2940.0	[m]	DC	STATOI
2960.0	[m]	DC	STATOI
2980.0	[m]	DC	STATOI
3000.0	[m]	DC	STATOI
3020.0	[m]	DC	STATOI
3040.0	[m]	DC	STATOI



3060.0	[m]	DC	STATOI
3080.0	[m]	DC	STATOI
3100.0	[m]	DC	STATOI
3120.0	[m]	DC	STATOI
3140.0	[m]	DC	STATOI
3160.0	[m]	DC	STATOI
3180.0	[m]	DC	STATOI
3200.0	[m]	DC	STATOI
3220.0	[m]	DC	STATOI
3240.0	[m]	DC	STATOI
3260.0	[m]	DC	STATOI
3280.0	[m]	DC	STATOI
3300.0	[m]	DC	STATOI
3320.0	[m]	DC	STATOI
3340.0	[m]	DC	STATOI
3360.0	[m]	DC	STATOI
3380.0	[m]	DC	STATOI
3400.0	[m]	DC	STATOI
3420.0	[m]	DC	STATOI
3440.0	[m]	DC	STATOI
3460.0	[m]	DC	STATOI
3480.0	[m]	DC	STATOI
3500.0	[m]	DC	STATOI
3520.0	[m]	DC	STATOI
3540.0	[m]	DC	STATOI
3560.0	[m]	DC	STATOI
3580.0	[m]	DC	STATOI
3600.0	[m]	DC	STATOI
3620.0	[m]	DC	STATOI
3640.0	[m]	DC	STATOI
3660.0	[m]	DC	STATOI
3680.0	[m]	DC	STATOI
3700.0	[m]	DC	STATOI
3720.0	[m]	DC	STATOI
3740.0	[m]	DC	STATOI
4000.0	[m]	DC	STATOI
4020.0	[m]	DC	STATOI
4040.0	[m]	DC	STATOI
4060.0	[m]	DC	STATOI
4080.0	[m]	DC	STATOI



4100.0 [m]	DC	STATOI
4120.0 [m]	DC	STATOI
4140.0 [m]	DC	STATOI
4160.0 [m]	DC	STATOI
4180.0 [m]	DC	STATOI
4200.0 [m]	DC	STATOI
4220.0 [m]	DC	STATOI
4479.0 [m]	DC	STATOI
4500.0 [m]	DC	STATOI
4521.0 [m]	DC	STATOI
4539.0 [m]	DC	STATOI
4560.0 [m]	DC	STATOI
4581.0 [m]	DC	STATOI
4599.0 [m]	DC	STATOI
4620.0 [m]	DC	STATOI
4641.0 [m]	DC	STATOI
4659.0 [m]	DC	STATOI
4680.0 [m]	DC	STATOI
4701.0 [m]	DC	STATOI
4770.0 [m]	SWC	WESTLB
4776.0 [m]	SWC	WESTLB
4797.0 [m]	DC	STATOI
4803.0 [m]	DC	STATOI
4808.0 [m]	SWC	WESTLB
4809.0 [m]	DC	STATOI
4815.0 [m]	DC	STATOI
4821.0 [m]	DC	STATOI
4824.0 [m]	DC	WESTLB
4827.0 [m]	DC	STATOI
4830.0 [m]	DC	WESTLB
4836.0 [m]	DC	WESTLB
4842.0 [m]	DC	WESTLB
4848.0 [m]	DC	WESTLB
4854.0 [m]	DC	WESTLB
4860.0 [m]	DC	WESTLB
4866.0 [m]	DC	WESTLB
4872.0 [m]	DC	WESTLB
4878.0 [m]	DC	WESTLB
4884.0 [m]	DC	WESTLB
4890.0 [m]	DC	WESTLB



4896.0 [m]	DC	WESTLB
4902.0 [m]	DC	WESTLB
4908.0 [m]	DC	WESTLB
4914.0 [m]	DC	WESTLB
4920.0 [m]	DC	WESTLB
4926.0 [m]	DC	WESTLB
4932.0 [m]	DC	WESTLB
4938.0 [m]	DC	WESTLB
4944.0 [m]	DC	WESTLB
4950.0 [m]	DC	STATOI
4950.0 [m]	DC	WESTLB
4956.0 [m]	DC	WESTLB
4962.0 [m]	DC	WESTLB
4968.0 [m]	DC	WESTLB
4974.0 [m]	DC	WESTLB
4980.0 [m]	DC	WESTLB
4986.0 [m]	DC	WESTLB
4992.0 [m]	DC	WESTLB
4998.0 [m]	DC	STATOI
4998.0 [m]	DC	WESTLB
5004.0 [m]	DC	WESTLB
5010.0 [m]	DC	WESTLB
5016.0 [m]	DC	STATOI
5016.0 [m]	DC	WESTLB
5022.0 [m]	DC	WESTLB
5028.0 [m]	DC	WESTLB
5034.0 [m]	DC	WESTLB
5040.0 [m]	DC	WESTLB
5046.0 [m]	DC	WESTLB
5052.0 [m]	DC	WESTLB
5058.0 [m]	DC	WESTLB
5064.0 [m]	DC	WESTLB
5070.0 [m]	DC	WESTLB
5076.0 [m]	DC	WESTLB
5082.0 [m]	DC	WESTLB
5088.0 [m]	DC	WESTLB
5094.0 [m]	DC	WESTLB
5100.0 [m]	DC	WESTLB
5106.0 [m]	DC	STATOI
5106.0 [m]	DC	WESTLB



5112.0	[m]	DC	WESTLB
5118.0	[m]	DC	WESTLB
5123.1	[m]	C	WESTLB
5125.7	[m]	C	WESTLB
5126.6	[m]	C	WESTLB
5128.6	[m]	C	WESTLB
5129.3	[m]	C	WESTLB
5131.3	[m]	C	WESTLB
5133.6	[m]	C	WESTLB
5135.0	[m]	C	WESTLB
5137.6	[m]	C	WESTLB
5139.8	[m]	C	WESTLB
5141.8	[m]	C	WESTLB
5143.7	[m]	C	WESTLB
5144.8	[m]	C	WESTLB
5146.4	[m]	C	WESTLB
5148.0	[m]	C	WESTLB
5150.2	[m]	C	WESTLB

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
326	NORDLAND GP
326	NAUST FM
1587	KAI FM
1979	HORDALAND GP
1979	BRYGGE FM
2509	ROGALAND GP
2509	TARE FM
2578	TANG FM
2637	SHETLAND GP
2637	SPRINGAR FM
2747	NISE FM
2914	KVITNOS FM
3622	CROMER KNOLL GP
3622	LYSING FM
3640	LANGE FM
4735	LYR FM
4747	VIKING GP



4747	SPEKK FM
4749	MELKE FM
4826	FANGST GP
4826	GARN FM
4918	NOT FM
4997	ILE FM
5092	BÅT GP
5092	ROR FM
5104	TOFTE FM

Spleisede logger

Dokument navn	Dokument format	Dokument størrelse [KB]
4094	pdf	0.29

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
4094_1	pdf	1.87
4094_2	pdf	1.33

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
4094_6406_2_6_A_COMPLETION_LOG	.pdf	2.53

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
AIT DSI GR	4664	5251
IPLT	4664	5251
MDT GR	4831	5159
MSCT GR	4770	4808
MWD - MPR	2749	5251





VSP ASI GR	2900	4807
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Foringsrør og formasjonsstyrketester

Type utforing	Utforing diam. [tommer]	Utforing dybde [m]	Brønnbane diam. [tommer]	Brønnbane dyp [m]	LOT/FIT slam eqv. [g/cm3]	Type formasjonstest
INTERM.	13 3/8	2749.0	17 1/2	2749.0	1.94	LOT
INTERM.	9 7/8	4383.0	12 1/4	4383.0	2.13	LOT
OPEN HOLE		5251.0	8 1/2	5251.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
805	1.86	42.0		VERSAPRO	
3071	1.70	45.0		VERSAPRO	
3315	1.70	44.0		VERSAPRO	
3386	1.70	44.0		VERSAPRO	
3718	1.70	36.0		VERSAPRO	
3926	1.75	42.0		VERSAPRO	
4100	1.75	36.0		VERSAPRO	
4212	1.75	38.0		VERSAPRO	
4500	2.02	50.0		VERSAPRO	
4561	1.85	45.0		VERSAPRO	
4626	2.02	49.0		VERSAPRO	
4673	1.86	45.0		VERSAPRO	
4758	2.04	55.0		VERSAPRO	
4826	2.04	46.0		VERSAPRO	
4832	2.02	50.0		VERSAPRO	
4849	2.04	48.0		VERSAPRO	
4948	2.04	48.0		VERSAPRO	
4996	2.02	45.0		VERSAPRO	
5011	2.02	46.0		VERSAPRO	
5018	2.02	46.0		VERSAPRO	
5061	2.02	49.0		VERSAPRO	
5119	2.02	50.0		VERSAPRO	
5151	2.02	49.0		VERSAPRO	
5159	2.02	50.0		VERSAPRO	
5251	2.02	50.0		VERSAPRO	



Trykkplott

Porertrykksdataene kommer fra logging i brønnen hvis ingen annen kilde er oppgitt. I noen brønner der trykk ikke er logget, er det brukt informasjon fra formasjonstester eller brønnspar. Trykkdataene er rapportert inn til Oljedirektoratet og videre prosessert og kvalitetssikret av IHS Markit.

Dokument navn	Dokument format	Dokument størrelse [KB]
4094 Formation pressure (Formasjonstrykk)	pdf	0.28

